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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/565,633

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Guido Luigi Daghini

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EXAMINER

FISCHER, JUSTIN R

ART UNIT

PAPER NUMBER

1747

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,633	Applicant(s) DAGHINI ET AL.	
	Examiner JUSTIN FISCHER	Art Unit 1747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 31-49,51,54-65,68-70 and 72 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 31-49,51,54-65,68-70 and 72 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 31-37, 39-48, 54-65, 68-70, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita (JP 58-4610, of record) and further in view of Paonessa (US 5,871,602, of record) and Van Giel (US 5,581,990, newly cited).

As best depicted in Figure 3, Yamashita teaches a tire construction including a pair of annular reinforcing elements 3, a carcass structure 6, a pair of bead fillers 4, a flipper 5, a tread band, a belt structure 10, and a pair of sidewalls, wherein each ply of said carcass structure is turned up around respective annular reinforcing elements.

While Yamashita is silent with respect to the cord material used in said flipper, it is extremely well known and conventional to use metal or textile reinforcing cords to form tire flipper components, as shown for example by Paonessa (Column 7, Lines 40+ and Column 16, Lines 25+). One of ordinary skill in the art at the time of the invention would have found it obvious to use a metal reinforcing cord given the general disclosures noted above.

Additionally, when using metal reinforcing cords, it is known to include at least one preformed element in order to provide, among other things, a high degree of rubber penetration and thus a high degree of reinforcement, as shown for example by Van Giel (Abstract and Column 1, Lines 5+). It is particularly noted that Van Giel broadly teaches the use of such a metallic cord in tire constructions- one of ordinary skill in the art at the

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time of the invention would have readily appreciated forming a wide variety of tire components, including a conventional tire flipper, with the disclosed steel reinforcing cord as the above noted benefits are highly desirable in all tire components including, tire flippers. It is additionally noted that the disclosure of a breaker or belt layer is exemplary (as evidenced by language "particularly advantageous"). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use the metallic cord of Van Giel in the flipper of Yamashita.

Also, the cord of Van Giel can include 5 or less filaments (Column 7, Lines 13+) and any preformed or waved filaments have a diameter between 0.05 mm and 1.25 mm, which fully encompasses the claimed range (Column 7, Lines 25+).

Lastly, regarding independent claim 31, one having ordinary skill in the art at the time of the invention would have found it obvious to form a tire with an aspect ratio of 0.45 or below given the general disclosure of Yamashita. It is emphasized that Yamashita is broadly directed to radial tire constructions (as evidenced by title) and such includes tires having any known aspect ratio, including those encompassed by the claimed invention.

Regarding claims 32-37 and 42-48, the cord of Van Giel includes a pair of preformed filaments having a wave form of sinusoidal shape (Column 7, Lines 32+). Van Giel further teaches that the wave amplitude and wavelength may vary over a wide range and such would render the broad range of the claimed invention obvious absent a conclusive showing of unexpected results.

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With respect to claims 39 and 40, flipper 5 comprises a pair of legs that are in direct contact with bead filler 4 and a central portion that directly contacts the annular reinforcing elements 3, wherein flipper ends contact one another and are offset from one another.

Regarding claim 41, a fair reading of Yamashita suggests the inclusion of at least one flipper (consistent with conventional tire design- see Paonessa in Column 16, Lines 18+). In such an instance, a second flipper can be viewed as the claimed "chafer". One would have found it obvious to form each with the metallic reinforcing cord of Van Giel. Alternatively, layer 9 can be viewed as the claimed chafer strip.

With respect to claims 54 and 59, one of ordinary skill in the art would have recognized the disclosed metal as being steel as is conventional in the tire industry.

Regarding claims 55 and 60, brass plated metal filaments are conventional in the tire industry (well recognized species of the genus "steel or metal filaments").

As to claims 56, 57, 61, and 62, Van Giel suggests the inclusion of at least one preformed or waved filaments having the claimed preformed and stranding dimensions.

Regarding claims 58 and 63, the claims define an extremely broad range of values for the cord density and said values are consistent with those conventionally used in tire components, including flippers. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed cord density.

With respect to claims 64 and 65, said at least one flipper 5 is formed of steel reinforcing elements (in view of Paonessa) inclined between 20 and 70 degrees with respect to the radial direction of the tire (Abstract).

As to claim 69, reinforcing lay 62 can be viewed as the claimed "chafer".

Regarding claim 70, the "chafer" of Yamashita is disposed between two carcass plies in as much as Figure 4 depicts such an arrangement (see Page 26, Lines 27+ of original disclosure).

With respect to claim 72, a first flipper or innermost flipper that directly contacts the bead filler and the bead core can be viewed as the claimed "flipper" and a second flipper that is outward of said first flipper can be viewed as the claimed "chafer" between the flipper and the carcass ply.

3. Claims 31-49, 51, 54-65, 68-70, and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita and further in view of Paonessa, Adachi (JP 10-121389, newly cited) and Van Giel.

As best depicted in Figure 3, Yamashita teaches a tire construction including a pair of annular reinforcing elements 3, a carcass structure 6, a pair of bead fillers 4, at least one flipper 5, a tread band, a belt structure 10, and a pair of sidewalls, wherein each ply of said carcass structure is turned up around respective annular reinforcing elements.

While Yamashita is silent with respect to the cord material used in said flipper, it is extremely well known and conventional to use metal or textile reinforcing cords to form tire flipper components, as shown for example by Paonessa (Column 7, Lines 40+

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and Column 16, Lines 25+). One of ordinary skill in the art at the time of the invention would have found it obvious to use a metal reinforcing cord given the general disclosures noted above.

Additionally, when using metal reinforcing cords, it is known to include at least one preformed element in order to provide, among other things, improve processing and rubber penetration and thus improve reinforcement characteristics, as shown for example by Adachi (Abstract). It is particularly noted that Adachi broadly teaches the use of such a metallic cord in tire constructions- one of ordinary skill in the art at the time of the invention would have readily appreciated forming a wide variety of tire components, including a conventional tire flipper, with the disclosed steel reinforcing cord as the above noted benefits are highly desirable in all tire components including tire flippers. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to use the metallic cord of Adachi in the flipper of Yamashita.

Adachi further teaches that a waved or preformed filament has a length between 5 and 30 times the filament diameter and an amplitude or height between 1.5 and 2.5 times the filament diameter. While Adachi fails to expressly disclose a range for the filament diameter, the claimed values are consistent with those conventionally used in the tire industry in general, as shown for example by Van Giel (Column 7, Lines 25+). It is emphasized that the range disclosed by Van Giel fully encompasses the claimed range between 0.05 and 0.20 mm and applicant has not provided a conclusive showing of unexpected results.

Regarding claims 32-38 and 43-49, Adachi teaches a wave shaped filament or a spiral (helical) filament. Additionally, the claimed dimensions of such a preformed filament are consistent with those conventionally used in the tire industry, as shown for example by Van Giel (Column 7, Lines 32+).

With respect to claims 39 and 40, flipper 5 comprises a pair of legs that are in direct contact with bead filler 4 and a central portion that directly contact the annular reinforcing elements 3. It is further evident from Figure 3 that respective flipper ends are offset from one another.

Regarding claim 41, a first flipper constitutes the claimed flipper and a second flipper constitutes the claimed "chafer" (general disclosure of Yamashita suggests at least one flipper- consistent with known tire design). One would have found it obvious to form each with the metallic reinforcing cord of Adachi. Alternatively, layer 9 can be viewed as the claimed chafer strip.

As to claim 51, strip 9 can also be viewed as the claimed "chafer" and such strips are positioned axially external of carcass plies.

With respect to claims 54 and 59, one of ordinary skill in the art would have recognized the disclosed metal as being steel as is conventional in the tire industry.

Regarding claims 55 and 60, brass plated metal filaments are conventional in the tire industry (represent species of the genus "steel or metal filaments").

As to claims 56, 57, 61, and 62, Adachi in view of Van Giel suggests the inclusion of multiple preformed filaments having the claimed preformed and stranding dimensions.

Regarding claims 58 and 63, the claims define an extremely broad range of values for the cord density and said values are consistent with those conventionally used in tire components, including flippers. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed cord density.

With respect to claims 64 and 65, said at least one flipper is (are) formed of metallic reinforcing elements inclined between 20 and 70 degrees with respect to the radial plane of the tire, which falls entirely within the broad ranges of the claimed invention.

Regarding claim 70, the "chafer" of Yamashita is disposed between two carcass plies in as much as Figure 4 depicts such an arrangement (see Page 26, Lines 27+ of original disclosure).

With respect to claim 72, a first flipper or innermost flipper that directly contacts the bead filler and the bead core can be viewed as the claimed "flipper" and a second flipper that is outward of said first flipper can be viewed as the claimed "chafer" between the flipper and the carcass ply.

Response to Arguments

4. Applicant's arguments with respect to claims 31-49, 51, 54-65, 68-70, and 72 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **JUSTIN FISCHER** whose telephone number is **(571)272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1747
November 23, 2011